

FIG. 1

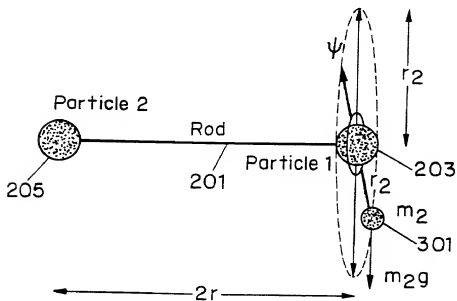


FIG. 3

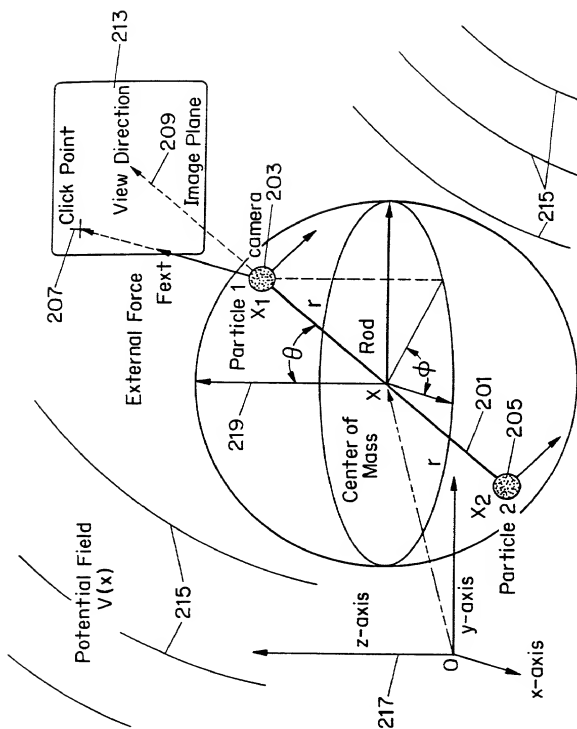


FIG. 2

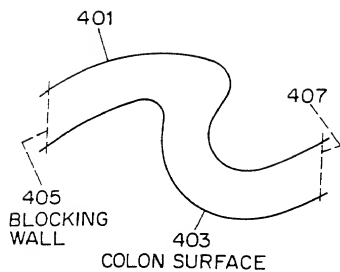


FIG. 4

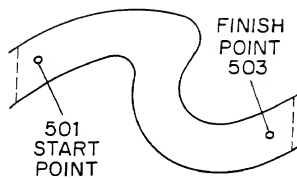


FIG. 5

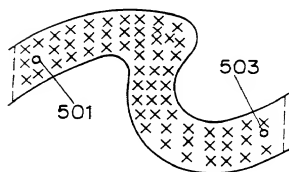


FIG. 6

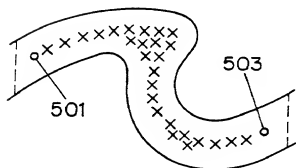


FIG. 7

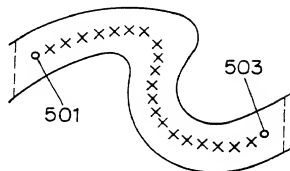


FIG. 8

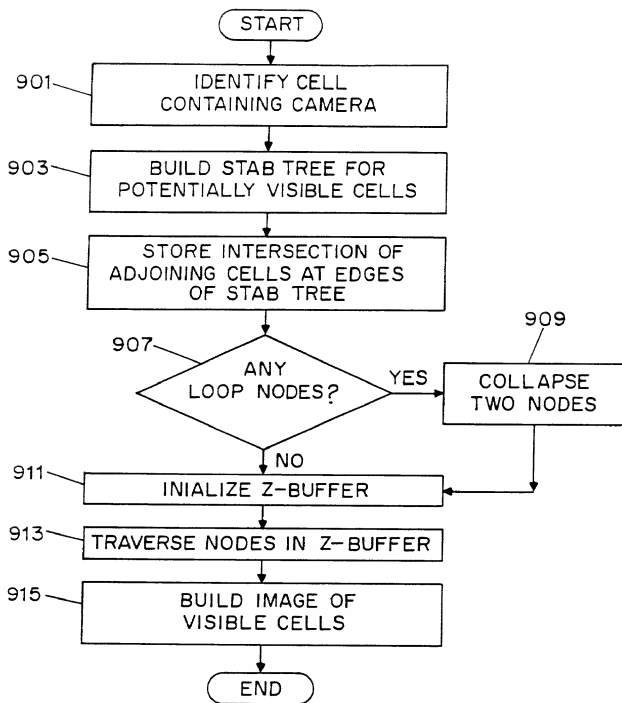


FIG. 9

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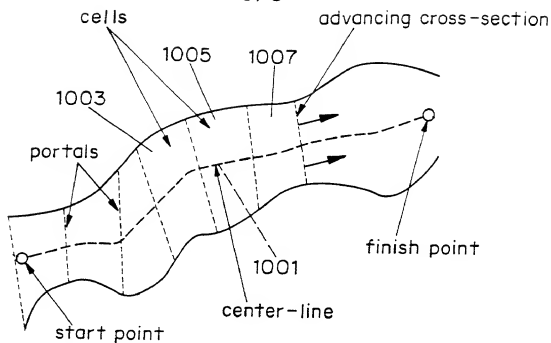


FIG. 10

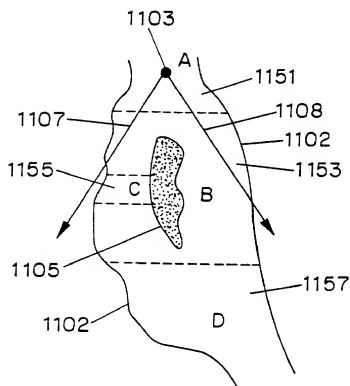


FIG. 11(a)

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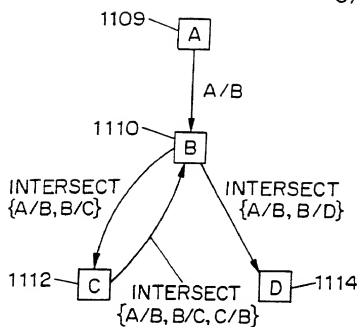


FIG. 11(b)

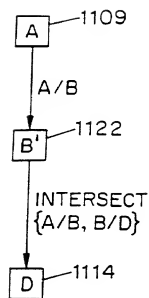


FIG. 11(c)

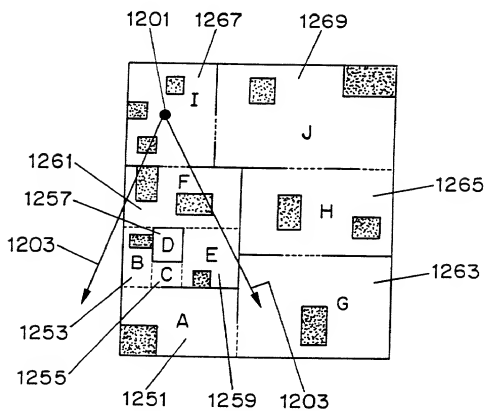


FIG. 12(a)

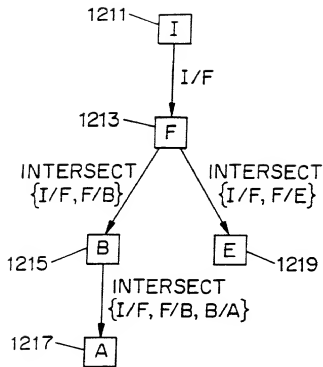


FIG. 12(b)

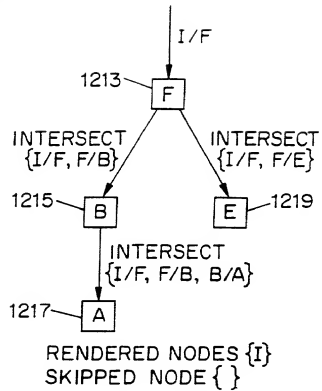


FIG. 12(c)

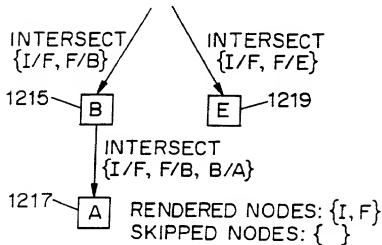


FIG. 12(d)

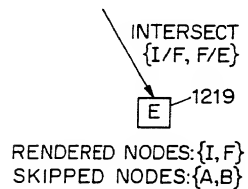


FIG. 12(e)

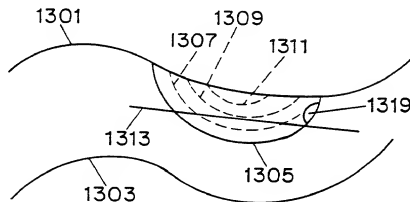


FIG. 13

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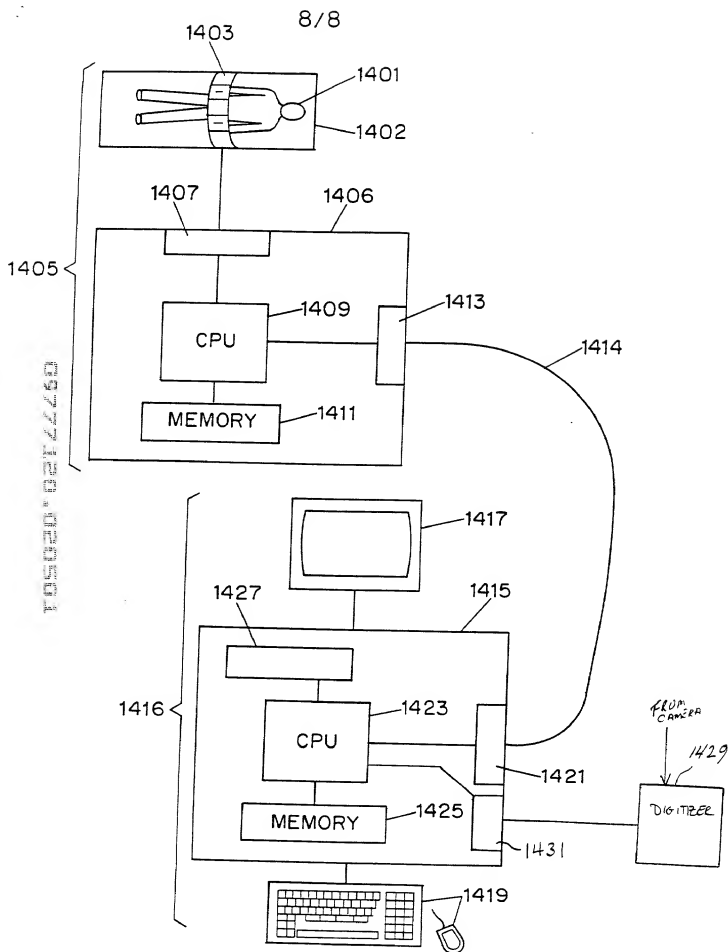


FIG. 14

Fig. 15

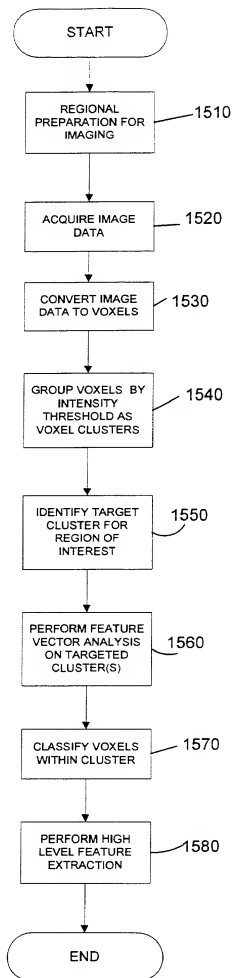


FIG. 16

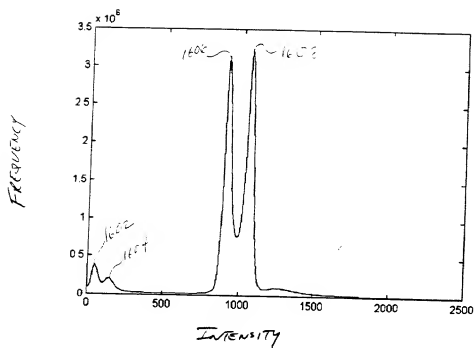


FIG. 17

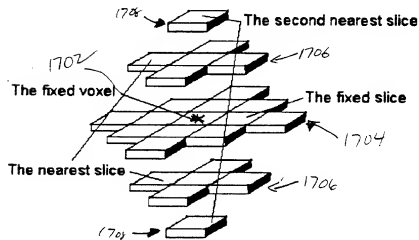


Fig. 18A

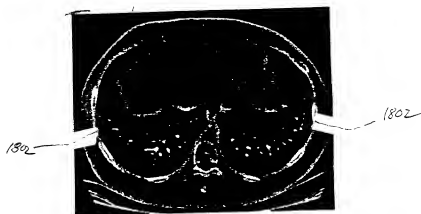


Fig. 18B

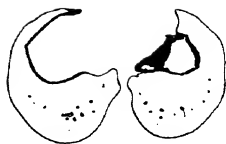


Fig. 18C



Fig 19A



FIG. 19B

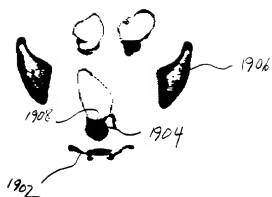


FIG 19C



Fig. 20

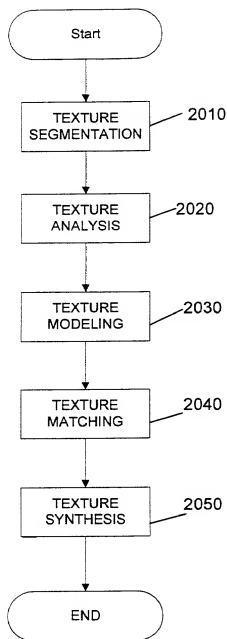


FIG. 21

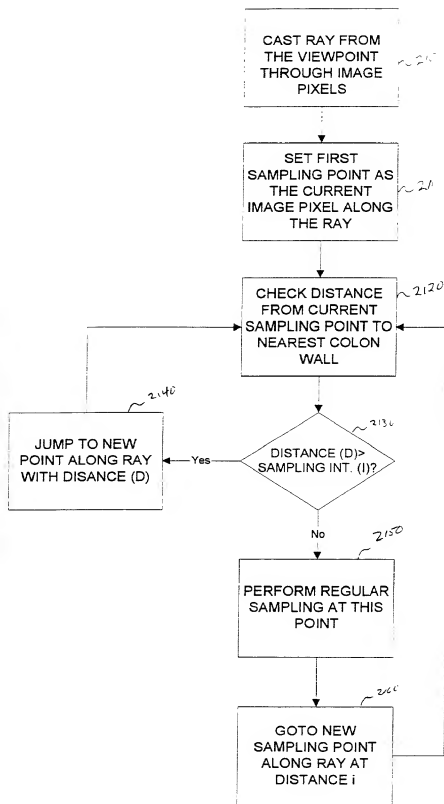
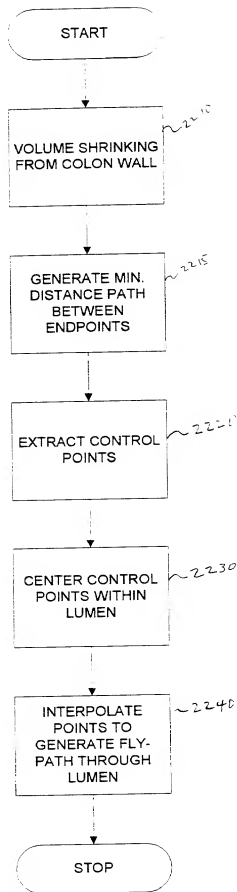


FIG. 22



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FIG. 23

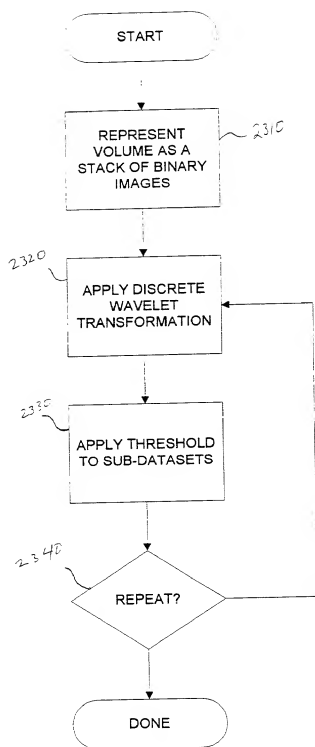
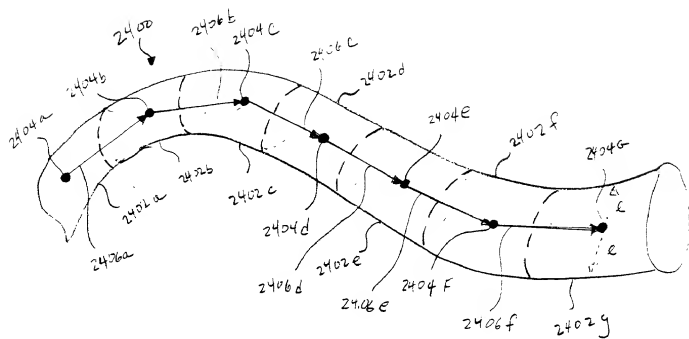


FIG 2A



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FIG. 25

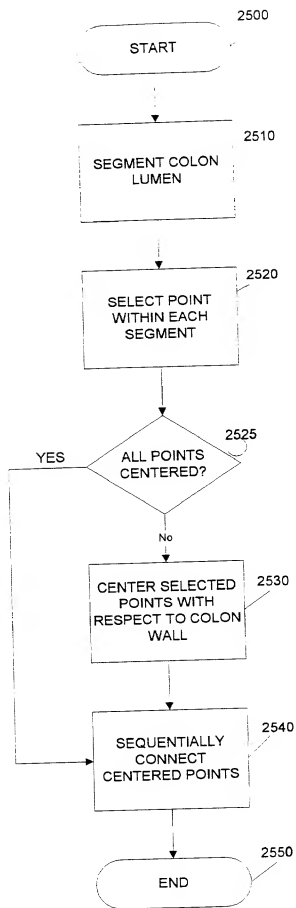


FIG. 20

IMAGE DATA FROM
IMAGING SCANNER

2645

DISPLAY

2662

SCANNER
INTERFACE
BOARD

2655

VOLUME
RENDERING
BOARD

VOLUME
RENDERING
MEMORY

2650

2670

I/O
INTERFACE

2672

PROCESSOR

2640

GRAPHICS
BOARD

2670

MAIN MEMORY

I/O DEVICES

05777420-000001

FIG. 27

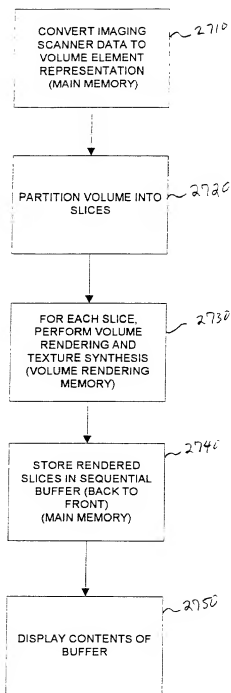
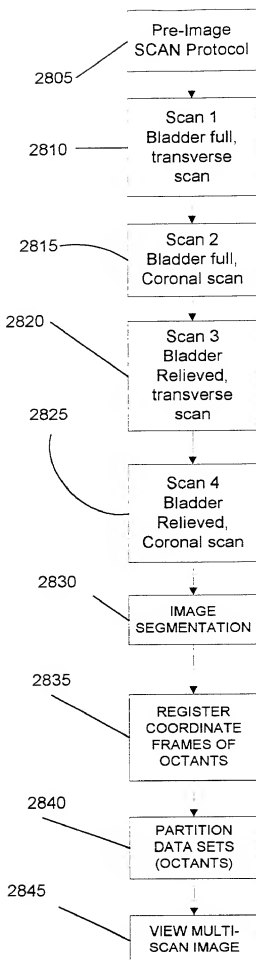


FIG 28

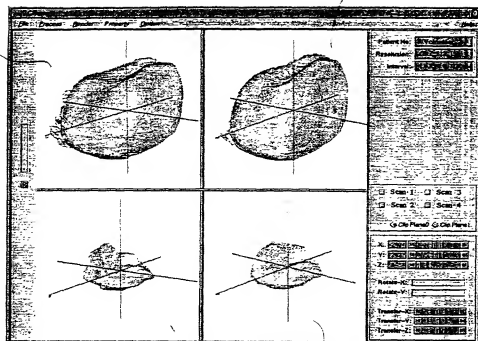


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2914

Fig. 29

2915



2916

2917

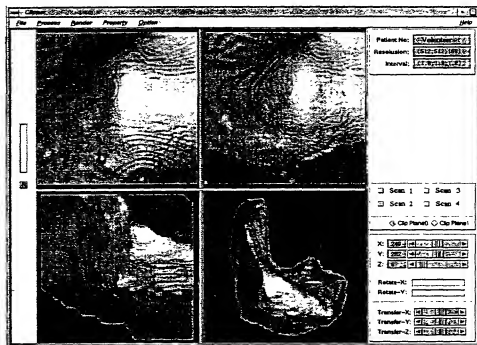


Fig. 30

FIG. 31

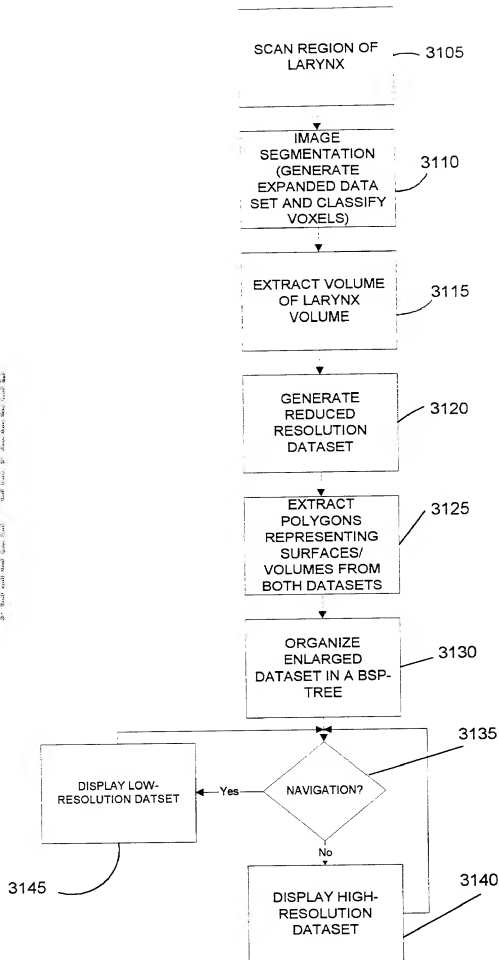


FIG. 32

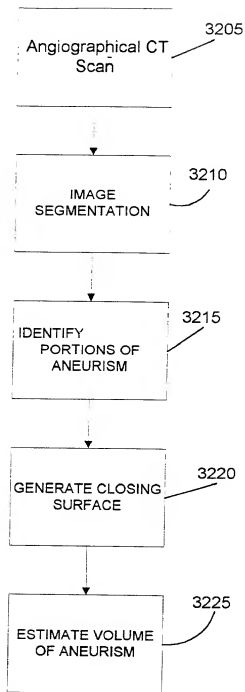


Fig. 300

Fig. 301

Fig. 302

09777120-000001

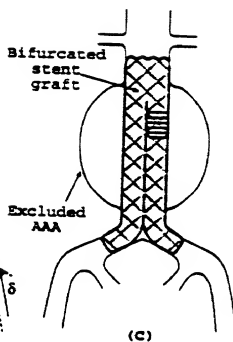
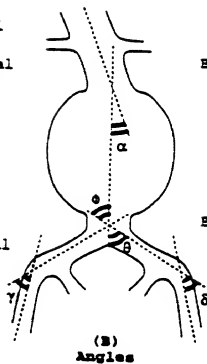
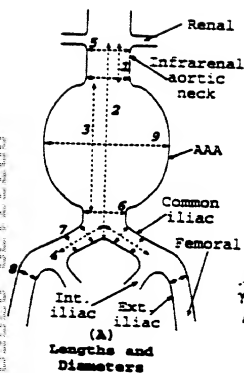
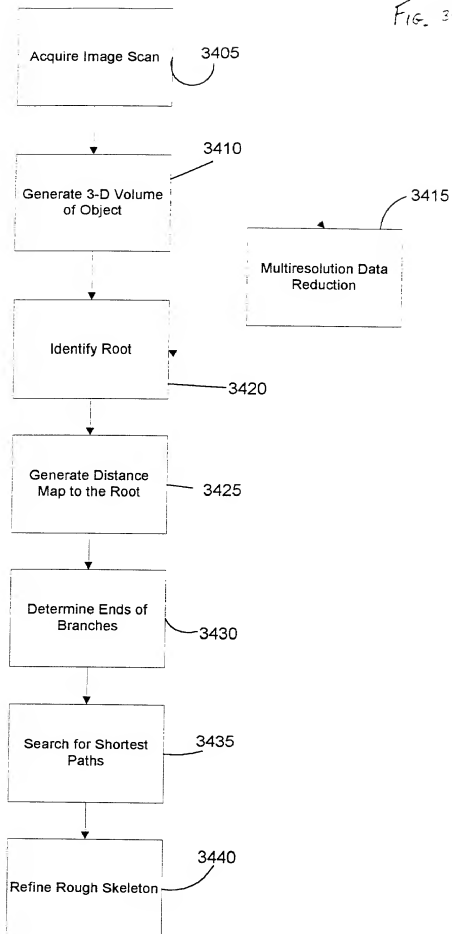
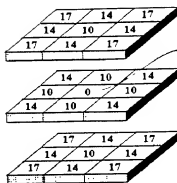


FIG. 34



0977130-32001

29



File 30

- ```

1) Label root voxel with integer 0;
2) Construct a queue and line up the root in the queue;
3) If(There is at least one voxel in the queue)
 Serve the voxel x on the top of the queue:
 For(each of x's 26-connected neighbor voxel y) {
 If(y in the volume and has not been labeled yet) {
 Line up the y in the queue;
 }
 }

```

```
/* label the voxel y */
```

```
Set dist = 999999 ;
```

For( each of  $y$ 's 26-connected neighbor voxel  $z$  ) {

If (z in the volume and has been already labeled with an integer of  $n_z$ ) (

$$d_{\gamma} \equiv n_{\gamma} + d(y, z);$$

where  $d(y, z)$  is 10, 14 or 17 if the Euclidean distance between  $y$  and  $z$  is

1,  $\sqrt{2}$ , or  $\sqrt{3}$ , respectively;

3

```

If(dist > dr) {

```

label  $y$  with integer  $dist$ ;

$$dist = d_{r,i};$$

3

3

3

3

**x** leaves the queue;

3

```
Else {
```

end of calculating the distance map.

3